

having an amorphous structure; source and drain regions, each of the source and drain regions comprising a semiconductor layer including elements of a first conductivity type, formed over the semiconductor layer having the amorphous structure;

C1  
a second insulating layer comprising an inorganic material and formed on the semiconductor layer having the amorphous structure and the semiconductor layer containing the elements of a first conductivity type so as to be in contact with at least a part of the channel formation region;

a pixel electrode formed in contact with the first insulating layer; and

an input terminal portion formed along an end portion of the substrate and electrically connected to a wiring;

wherein the input terminal portion comprises a first layer comprising the same material as that of the gate electrode and a second layer comprising the same material as that of the pixel electrode in contact with the first layer through a single contact hole formed only in the first insulating layer.

C2  
6. (Amended) A semiconductor device as claimed in claim 3, wherein the gate electrode comprises a heat-resistant electrically conductive material, or the heat-resistant electrically conductive material and a low-resistive electrically conductive material.

C3  
9. (Amended) A semiconductor device as claimed in claim 6, wherein the heat-resistant electrically conductive material comprises one of an element selected from titanium (Ti), tantalum (Ta) and tungsten (W), a compound that contains any one of the above elements, a compound film that combines the above elements together, and a nitride that contains any one of the above elements; and

C3  
wherein the low-resistive electrically conductive material comprises a material containing aluminum (Al).

C4  
12. A semiconductor device as claimed in claim 3, wherein the semiconductor device comprises one of a personal computer, a video camera, a portable information terminal, a digital camera, a digital video disc player, an electronic play device and a television.

C5  
25. (Amended) A semiconductor device comprising:  
a substrate having an insulating surface;  
a thin film transistor formed over the substrate, the thin-film transistor comprising a gate electrode formed over the substrate; a first insulating layer, where a portion of said insulating layer is formed on said gate electrode; a channel formation region formed in a semiconductor layer having an amorphous structure; source and drain regions, each of the source and drain regions comprising a semiconductor layer including elements of a first conductivity type, formed over the semiconductor layer having the amorphous structure;  
a pixel electrode formed in contact with the first insulating layer,  
a second insulating layer comprising an inorganic material and formed on the pixel electrode and the semiconductor layer having the amorphous structure and the semiconductor layer containing the elements of a first conductivity type so as to be in contact with at least a part of the channel formation region; and  
an input terminal portion formed along an end portion of the substrate and electrically connected to a wiring;

wherein the input terminal portion includes a first layer comprising the same material as that of the gate electrode and a second layer comprising the same material as that of the pixel electrode, and

wherein each of the gate electrode and the first layer has a tapered portion formed on at least an end portion thereof.

26. (Amended) A semiconductor device comprising:

a substrate having an insulating surface;

a thin film transistor formed over the substrate, the thin-film transistor comprising a gate electrode formed over the substrate; a first insulating layer, wherein a portion of said insulating layer is formed on said gate electrode; a channel formation region formed in a semiconductor layer having an amorphous structure; source and drain regions, each of the source and drain regions comprising a semiconductor layer including elements of a first conductivity type, formed over the semiconductor layer having the amorphous structure;

a second insulating layer comprising an inorganic material and formed on the semiconductor layer having the amorphous structure and the semiconductor layer containing the elements of a first conductivity type so as to be in contact with at least a part of the channel formation region;

a pixel electrode formed in contact with the first insulating layer;

a wiring formed on the source and drain regions and a portion of the pixel electrode;

a storage capacitor comprising a storage capacitor wiring comprising the same material as that of the gate electrode, the first insulating layer on the storage capacitor wiring and the pixel electrode on the first insulating layer; and

an input terminal portion formed along an end portion of the substrate and electrically connected to a wiring;

wherein the input terminal portion includes a first layer comprising the same material as that of the gate electrode and a second layer comprising the same material as that of the pixel electrode.

27. (Amended) A semiconductor device comprising:

a substrate having an insulating surface;

a thin film transistor formed over the substrate, the thin-film transistor comprising a gate electrode formed over the substrate; a first insulating layer, wherein a portion of said first insulating layer is formed on said gate electrode; a channel formation region formed in a semiconductor layer having an amorphous structure; source and drain regions, each of the source and drain regions comprising a semiconductor layer including elements of first conductivity type, formed over the semiconductor layer having the amorphous structure;

a second insulating layer comprising an inorganic material and formed on the semiconductor layer having the amorphous structure and the semiconductor layer containing the elements of first conductivity type so as to be in contact with at least a part of the channel formation region;

a pixel electrode formed in contact with the first insulating layer;

a storage capacitor comprising a storage capacitor wiring comprising the same material as that of the gate electrode, the first insulating layer on the storage capacitor wiring and the pixel electrode on the first insulating layer; and

an input terminal portion formed along an end portion of the substrate and electrically connected to a wiring;

wherein the input terminal portion comprises a first layer comprising the same material as that of the gate electrode and a second layer comprising the same material as that of the pixel electrode in contact with the first layer through a single contact hole formed only in the first insulating layer.

28. (Amended) A semiconductor device comprising:

a substrate having an insulating surface;

a thin film transistor formed over the substrate, the thin-film transistor comprising a gate electrode formed over the substrate; a first insulating layer, wherein a portion of said first insulating layer is formed on said gate electrode; a channel formation region formed in a semiconductor layer having an amorphous structure; source and drain regions, each of the source and drain regions comprising a semiconductor layer including elements of first conductivity type, formed over the semiconductor layer having the amorphous structure;

a pixel electrode formed in contact with the first insulating layer;

a second insulating layer comprising an inorganic material and formed on the pixel electrode and the semiconductor layer having the amorphous structure and the semiconductor layer containing the elements of first conductivity type so as to be in contact with at least a part of the channel formation region;

a storage capacitor comprising a storage capacitor wiring comprising the same material as that of the gate electrode, the first insulating layer on the storage capacitor wiring and the pixel electrode on the first insulating layer; and

an input terminal portion formed along an end portion of the substrate and electrically connected to a wiring;

wherein the input terminal portion includes a first layer comprising the same material as that of the gate electrode and a second layer comprising the same material as that of the pixel electrode, and

wherein each of the gate electrode, the storage capacitor wiring and the first layer has a tapered portion formed on at least an end portion thereof.

29. (Amended) A semiconductor device comprising:

a substrate having an insulating surface;

a thin film transistor formed over the substrate, the thin-film transistor comprising a gate electrode formed over the substrate; a first insulating layer, wherein a portion of said first insulating layer is formed on said gate electrode; a channel formation region formed in a semiconductor layer having an amorphous structure; source and drain regions, each of the source and drain regions comprising a semiconductor layer including elements of first conductivity type, formed over the semiconductor layer having the amorphous structure;

a second insulating layer comprising an inorganic material and formed on the semiconductor layer having the amorphous structure and the semiconductor layer containing the elements of first conductivity type so as to be in contact with at least a part of the channel formation region;

a pixel electrode formed in contact with the first insulating layer; and

an input terminal portion formed along an end portion of the substrate and electrically connected to a wiring;

wherein the input terminal portion comprises a first layer comprising the same material as that of the gate electrode and a second layer comprising the same material as that of the pixel electrode

in contact with the first layer through a single contact hole formed only in the first insulating layer,  
and

wherein each of the gate electrode and the first layer has a tapered portion formed on at least  
an end portion thereof.

30. (Amended) A semiconductor device comprising:

a substrate having an insulating surface;

a thin film transistor formed over the substrate, the thin-film transistor comprising a gate  
electrode formed over the substrate; a first insulating layer, wherein a portion of said first insulating  
layer is formed on said gate electrode; a channel formation region formed in a semiconductor layer  
having an amorphous structure; source and drain regions, each of the source and drain regions  
comprising a semiconductor layer including elements of first conductivity type, formed over the  
semiconductor layer having the amorphous structure;

a second insulating layer comprising an inorganic material and formed on the semiconductor  
layer having the amorphous structure and the semiconductor layer containing the elements of first  
conductivity type so as to be in contact with at least a part of the channel formation region;

a pixel electrode formed in contact with the first insulating layer;

a storage capacitor comprising a storage capacitor wiring comprising the same material as that  
of the gate electrode, the first insulating layer on the storage capacitor wiring and the pixel electrode  
on the first insulating layer; and

an input terminal portion formed along an end portion of the substrate and electrically  
connected to a wiring;